

REMARKS

The Office Action objected to the specification and rejected certain claims under Section 112. Additionally, the Office Action rejected claims 1-7, 9-10, 13-14, 16-17, 20-25, and 27-28 as anticipated by Syeda-Mahmood (US 6,578,040). Further, claims 8, 15 and 26 were rejected over Syeda Mahmood and Guyon (US 2003/ 0172043). Finally, claims 11-12, 18-19 and 29-30 were rejected over Syeda Mahmood and Mouradian (US 5,943,663). In response, Applicants have amended the specification and the claims and respectfully traverse the remaining rejections as follows:

THE SECTION 101 REJECTION

Claims 1, 13, 20, and 24 were rejected under Section 101. Applicants have amended the claims. Withdrawal of the Section 101 rejection is requested.

THE SECTION 102 REJECTION

Claims 1-7, 9-10, 13-14, 16-17, 20-25, and 27-28 were rejected as anticipated by Syeda-Mahmood, which shows indexing of topics using foils. Col 3, lines 14-22 of Syeda Mahmood teaches that:

It is, therefore, an object of the present invention to provide a structure and method for indexing multi-media data comprising deriving keywords from a first media type (slides), matching the keywords to a second media type (video), identifying an appearance of the first media type in the second media type, and calculating a co-occurrence of the keywords and the appearance of the first media type in the second media type. The invention produces an index of the second media type based on the co-occurrence.

The Office Action notes that the "deriving keywords from a first media type (slides)" corresponds to the claimed receiving a first set of expanded results generated from a first query concept by utilizing one or more data sources. The Office Action further notes that the "matching the keywords to a second media type (video)" corresponds to the claimed receiving a second set of expanded results generated from a second query concept by utilizing the one or more data sources.

Applicants respectfully traverse the rejection. Syeda Mahmood indexes the information contained within one media source, based upon keywords from a different media source. The Syeda Mahmood system determines keywords from captions on foils and produces an index for a related video based upon the co-occurrence of the foils in the video and keywords in the audio portion of the video. (Col. 4, lines 25-38). The keyword can be selected based upon the frequency with which the words occur in the foil captions. In a simplified system, a predetermined number (e.g., 10) of the most frequent words could comprise the keywords. Col. 6, lines 42-52.

Although Syeda Mahmood teaches that it automatically determines keywords (such as most frequently occurring words) from one data source and then searches for these keywords in a second data source, Syeda Mahmood fails to teach searching for the keywords based on a first query concept since identifying the most frequently occurring words in a document is not done without reference to any query concept. Hence, the determination of the keywords does not correspond to a search for a first query concept. As this element is missing, Syeda Mahmood cannot anticipate the claims on this basis alone.

In addition, Syeda Mahmood fails to show a two step process to perform search expansion by: 1) generating a first expanded set of results by searching with the first query concept and 2) generating a second expanded set of results by searching with the second query concept. As discussed above, the determination of keywords is done without the need for a first query concept. The search for occurrences of the keywords in the second data source such as video is done again without requiring a query concept. Since the generation of first and second expanded set of results by searching with the first and second query concepts is not shown in Syeda Mahmood, Syeda Mahmood cannot anticipate the claims. Withdrawal of the rejection is requested on this basis.

Additionally, Applicants respectfully traverse the assertion that the "calculating a co-occurrence of the keywords and the appearance of the first media type in the second media type" corresponds to the claimed determining an intersection set of documents from the first and second sets of expanded results, wherein a relationship is determined between the first and second query concepts from the intersecting set of documents. First, because Syeda Mahmood maps occurrences of keywords in one media type to another

media type, Syeda Mahmood does not receive an intersection set of documents from the first and second sets of expanded search results. This is yet another basis for traversing the Section 102 rejection,

Further, Syeda Mahmood fails to show determining a relationship between the first and second query concepts from the intersecting set of documents. For example, as discussed in the instant specification, a medical researcher may be interested in searching for a relationship between a concept C1 on "BCL2" and a concept C2 on "heart disease." The system would perform its search and concept C1 may be expanded to several concepts, one of which may be "apoptosis." In this example, concept C2 may be expanded to several concepts. The overlapping documents may be found for specific reasons: Documents found from S1 (but in the intersection) might be found because of "apoptosis" and documents found from S2 might be found because of "heart disease". The explanation is then C1 relates to apoptosis, and apoptosis relates directly to C2 (heart disease). The documents in the intersection are those that explain the relationship. Syedan Mahmood simply determines the occurrence of keywords found in both media types, but cannot explain the relationship. The Section 102 rejection is improper for this reason as well and should be withdrawn.

Since the independent claims are not anticipated by Syeda Mahmood, the dependent claims are also not anticipated by Syeda Mahmood. Withdrawal of the Section 102 rejection on claims 1-7, 9-10, 13-14, 16-17, 20-25, and 27-28 is respectfully requested.

THE SECTION 103 REJECTIONS

Claims 8, 15 and 26 were rejected over Syeda Mahmood and Guyon while claims 11-12, 18-19 and 29-30 were rejected over Syeda Mahmood and Mouradian (US 5,943,663).

As discussed above, Syeda Mahmood does not show all elements recited the independent claims. Due to the missing elements, it cannot render obvious any of the dependent claims. Hence, the claims are not unpatentable over Guyon or Mouradian as they depend from allowable claims.

Guyon's paragraph 206 notes that the gene selection method is compared against a reference gene selection method described in Golub et al, Science, 1999, which is referred to as the "baseline method." Since there was no defined training and test set, the data was randomly split into 31 samples for training and 31 samples for testing. Even though the baseline terminology is mentioned, it refers to the Golub method. There is no showing of the claimed specifics, namely that a baseline expansion feature set is generated by training on a random data sample. Further, combining Syeda Mahmood with Guyon would result in a non-functional system that determines keywords among media types and then discover knowledge using learning machines that are provided information regarding changes in biological systems (Guyon paragraph 63). One skilled in the art would not be motivated to combine Guyon with Syeda Mahmood. Due to the missing elements in the independent claims as well as the missing baseline expansion feature set, claims 8, 15 and 26 are patentable over Syeda Mahmood in view of Guyon.

Mouradian teaches an inherently, and massively parallel data processing system and methodology for evolving relative awareness, and related response states in a computerized environment. Mouradian requires "that time and space factors be retained at every convergent processing step beginning with input and then pertaining at every convergent node a data form later encounters. Designers need to specify the resolution of time, space and form that will apply to each data type they configure for processing. The goal is to consistently sample all data types at some specified sampling rate. These sampling or input rates can be fixed or they can be allowed to vary dynamically utilizing feedback means or allowed to be controlled by the designers through some kind of computer interface in case they need to be able to modify sampling rates." Mouradian at Col. 15, lines 47-58.

However, Mouradian completely fails to teach that the feedback scoring function assigns a fixed score to each feature and where feature is assigned different fixed scores. Hence, the elements in the independent claims as well as those recited in claims 12, 19 and 30 are not shown in Syeda Mahmood and Mouradian. Further, combining Syeda Mahmood with Mouradian would result in a non-functional system that determines keywords among media types and then evolve relative awareness and response states. One skilled in the art would not be motivated to combine Mouradian with Syeda

Mahmood. Due to the missing elements in the independent claims as well as the missing feedback scoring function that assigns a different fixed score to each feature, neither Syeda Mahmood nor Mouradian can render claims 12, 19 and 30 obvious. Withdrawal of the rejection on these claims is requested.

Applicants take this opportunity to reiterate the requirement for a *prima facie* case of obviousness is helpful. Per MPEP 706.02(j): Contents of a 35 U.S.C. 103 Rejection

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP Section 2143 - Section 2143.03 for decisions pertinent to each of these criteria.

The initial burden is on the examiner to provide some suggestion of the desirability of doing what the inventor has done. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." Ex parte Clapp, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985). See MPEP Section 2144 - Section 2144.09 for examples of reasoning supporting obviousness rejections.

Here, the dependent claims are allowable because they recite features not shown in the references. Here, since Syeda Mahmood fails to show a computer-implemented method to search for data responsive to first and second query concepts by receiving a first set of expanded results generated from a first query concept by utilizing one or more data sources; receiving a second set of expanded results generated from a second query concept by utilizing the one or more data sources; determining an intersection set of documents from the first and second sets of expanded results, wherein a relationship is determined between the first and second query concepts from the intersecting set of documents, Syeda Mahmood cannot render the independent claims obvious. Further, the

claims are allowable since they include a number of elements that are completely missing from the cited reference.

Appellant points out that the Examiner bears the initial burden of factually establishing and supporting any *prima facie* conclusion of obviousness. *In re Rinehart*, 189 U.S.P.Q. 143 (CCPA 1976); M.P.E.P. § 2142. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.* In the instant case, the Examiner has not pointed to any evidence in Guyon or Mouradian, or how knowledge of those skilled in the art, provide a suggestion or motivation to modify the reference teaching Syeda Mahmood so as to produce the claimed invention. See *In re Zurko*, 59 U.S.P.Q.2d 1693 (Fed. Cir. 2001) ([I]n a determination of patentability the Board cannot simply reach conclusions based on its understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings).

Under *Vaeck*, absent any evidence of a cited suggestion or reasonable motivation in the Syeda Mahmood reference, or knowledge of those skilled in the art, for arriving at the rejected dependent claims. Hence, *prima facie* obviousness of the claims cannot be established. As such, it is respectfully requested that the § 103(a) rejection be withdrawn and the claims be allowed.

CONCLUSION

Applicants respectfully submit that all claims are in condition for allowance. Withdrawal of the rejection is respectfully requested. If for any reason the Examiner believes that a telephone conference would in any way expedite prosecution of the subject application, the Examiner is invited to telephone the undersigned.

Respectfully submitted,


Bao Tran

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